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SCHOOL HEALTH ACTIVITIES IN 1930[1]

Summary of Information Collected for The White House Conference on Child Health and Protection

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Introduction

In response to a request from the chairman of the committee on the school child of the White House Conference on Child Health and Protection, the Office of Education, Department of the Interior, sent, in February, 1930, to superintendents of schools, a series of questions in regard to what is being done by special means toward the conservation and promotion of the health of children. The response was prompt and generous. There were replies from superintendents in 49 cities having a population of 100,000 or more (about 70 per cent), census of 1920; from 112 having a population from 30,000 to 100,000 (about 62 per cent); from 303 cities of those from 10,000 to 30,000 (about 59 per cent); from 512 places with 5,000 to 10,000 people (71 per cent); from 1,007 with 2,500 to 5,000 (76 per cent); and from 1,500 county superintendents (about 50 per cent). Questionnaires

[1] For a comparison of this survey with that made by the Office of Education in 1923, see A Biennium in Hygiene and Physical Education, Bulletin, 1931, No. 20.

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were not sent to school districts falling between the county systems and those in communities of less than 2,500 people. The schools in all urban communities (containing over half the total school population) and those enrolling about half the rural children were canvassed. The returns reflect school health work in about 70 per cent of city and 25 per cent of rural schools or in a total of about 55 per cent of our schools. It is quite probable that the health practices in uncanvassed districts (containing about 25 per cent of the total school population) are much the same in those of the places 2,000 to 5,000 or in county systems.

Cities with a Population of 100,000 or More

Of cities of this size 49 (about 70 per cent) responded to our inquiries.

Administration

All cities of 100,000 people or more which reported have medical inspection of school children. In 30 of these 49 cities (60 per cent) the medical and dental inspection is under the direction of the department of education; in 13 (26 per cent) under the department of health; and in the remainder the administration is divided. The dental inspection, being in practically all cases part and parcel with the medical inspection, falls usually under the same administration.

The control of communicable diseases is reported by 11 cities as under the department of education; by 26 as under the department of health; by 10 as administered jointly; 2 cities did not report.

Physical education is reported by all as administered by the department of education. In one city "health education" is directed by the department of health, and, in two, jointly by the departments of education and health.

"Nutrition work" was reported separately from other health work by 35 cities though in most cases it is only nominally distinct. In 27 it is directed by the department of education, in 4 by the department of health, and in 4 by some other agency.

In 80 per cent of these cities the sanitation of buildings and grounds is under the control of the department of education, in 2 cities it is a function of the department of health, in 5 there is joint administration, and in 1 it is under the control of some "other" organization. Two cities did not report.

Twenty-nine of the 49 cities replied as to the administration of "mental hygiene," however this may have been interpreted. In 21 of these cities this work is directed by the department of education. It is administered by the department of health in 1, jointly by 2 cities, by some other agency in 4, and by the department of education and some other agency in 1 city.

Expenditures

The expenditures for medical (including dental) inspection in these cities average about 67 cents per child of the school census population. The minimum expenditure is 7.7 cents and the maximum is $2.55. Where the expenditures are given separately, the comparative cost of dental work runs from one-seventh of that for medical inspection to, in two cities, an excess over medical inspection. Probably in most of the cities there is considerable expenditure for treatment of dental defects.

For medical inspection alone the average expenditure reported separately by 22 cities was 43 cents per child. For dental inspection in these same cities the expenditure was 17 cents per child.

Doubtless both the medical and dental costs are almost wholly for salaries.

The expenditure for physical education was $1.21 per child as the average for the 18 cities reporting. Probably this was chiefly for salaries of special teachers. The highest expenditure was $2.85 per child (school census) and the lowest 8 cents per child. It is quite probable that in the cities reporting very low expenditures most of the teaching is done by regular teachers.

Only three cities reported separately expenditures for "health education" and only seven for "nutrition work." For the latter the average cost was 6 cents per child.

The average expenditure by six cities for "mental hygiene" (whatever this might include) was 9½ cents per child.

In reply to the question "What official is in charge of all of your health work?" 23 superintendents (about one-third) replied, "A director of health, or director of hygiene"; 4 answered "The director of medical inspection"; 1 "The director of physical welfare"; 1 "The superintendent," and 1 "The assistant superintendent." The remaining cities did not answer the question.

Personnel

The average number of children (school census) per medical inspector was 5,320; the largest number 38,670 and the smallest 1,240. As most school physicians are on part-time service all of these figures must be so considered.

The average number of children per school nurse was 3,330, the highest 21,400 and the lowest 1,365. (A health demonstration is being conducted in this latter city.)

The average number of pupils per dentist was 9,860, and at least half the dentists work less than the usual school hours. In eight cities, however, they are employed for more than these school hours.

Most of the cities having a dental hygienist employ but one. The number of pupils per hygienist varies from 5,600 to 248,500.

The average number of pupils per physical education teacher is 2,550; the highest 32,100 and the lowest 450.

Time and compensation.—The hours worked by school physicians varies from 5 per week to 50 per week, and the months from 9 to 12. In four cities they are employed for 9 months; in 22 (about one-third) for 10 months; in one for 11 months; in 12 for 12 months. (It is quite probable that the 12 months employment includes a vacation of from 2 to 4 weeks). In two cities the physicians work 5 hours per week, in two 7½ hours, in ten 10 hours, in one 12, in one 13, in six 15, in three 20 hours, in two 30 hours, in one 35 hours, in one 40, in three 44, in one 48, and in one 50 hours. Only nine of these cities employ what can be considered full-time inspectors unless it be for the physician in charge. In a few cases where only one physician is employed he works for 20 or less hours per week.

The compensation runs from $500 for 10 hours per week and a 10-month year ($1 per hour) to $6,000 for 15 hours and 10 months' work ($8 per hour). One hundred to one hundred fifty dollars per month for 10 hours' work ($2 to $3 per hour) would seem to be the most usual compensation. Physicians working 40 or more hours per week receive from $3,000 to $6,000. Six cities pay $4,000 or more.

School nurses are full-time employees. In six cities they work 9 months, in 19 they are employed for 10 months, in 5 for 11 months, and in 13 for 12 months. In two cities they work for 30 hours per week; in two, 32 hours; in five for 35 or 36 hours; in 11 for 40 hours; in nine for 43 hours to 45½ hours. One city reports 48 hours, one 50 and one 51 hours. It will be seen that most cities do not expect more than 40 hours work per week of their nurses. Only nine cities pay less than $1,200. Thirty-three pay $1,200 or more; nine pay a minimum of $1,500 or more. In 23 cities a maximum of $1,800 or more is paid; in 16 cities the maximum is $2,000 or more. The average of maximum salaries for all (which includes a few over $3,000) is $1,933.

In two cities the school dentists are employed for 8 months; in five for 9 months; in thirteen for 10 months; in four for 11 or 11½ months, and in seven for 12 months. In 12 out of 30 cities reporting the hours per week are 15 or less; in two they are 20; in one, 25; in one, 30; in one, 32; in two, 35; in one, 38; in three, 40, and one, 44. The salaries paid vary extremely. On an hourly basis the average for 21 cities is $2.64. Dentists working 20 hours or more per week receive from $3,000 to $4,400.

Only 18 cities report the employment of dental hygienists. These work from 9 to 12 months with an average of 10 months. The number of hours per week runs from 25 to 43. The salaries reported

are from $1,000 to $3,600. The minimum (beginning?) salaries extend from $1,000 to $1,800, the average being about $1,200 and the "maximum" salaries range from $1,100 to $3,600. The average maximum is about $1,800. Only one city pays $3,600 and the next highest is $2,440. The third highest is $2,100.

Physical education teachers are nearly all reported as employed for 10 months. None are employed for a longer time, so that the salaries paid evidently do not include compensation for summer playground supervision. The number of hours per week ranges from 25 to 40, the usual number being 30. In three cities the hours are 40; in one, 38; in three, 30, and in one, 30 to 45. The lowest minimum compensation given is $1,000 and the highest $1,800; the average minimum salary being $1,308. The highest maximum salary (New York City Director of Health and Physical Education) is $7,500, the next highest is $4,500. In six cities (including these two) the maximum salary is $4,000 or more. The average maximum is $3,612. The lowest maximum is $2,300.

"Nutrition workers" are employed from 25 to 45 hours. In 4 of the 10 cities reporting such a specialist the hours are given as 35 or more. The minimum salaries run from $1,000 to $1,850 and the maximums from $1,800 to $3,600. In the eight cities reporting "health teachers," the minimum salaries range from $1,000 to $2,500, the usual salary being from $1,300 to $1,600. The maximum salaries run from $2,000 to $4,000.

Health Examinations

Twenty-one cities (about 30 per cent) report the examination of children before entrance to school. In four of these cities 100 per cent of these children are examined; in one, 90 per cent; in one, 80 per cent; in two, 75 per cent; in two, 60 per cent; and in one "most" are examined. Twelve of these cities answered the question with regard to the percentage of those found defective who had these defects treated. The answers were as follows: None, one city; "small" percentage, two cities; 1 per cent, one city; 10 per cent, one city; 20 per cent, one city; 25 per cent, one city; 33⅓ per cent, one city; 50 per cent, two cities; 60 per cent, one city. In the latter city only 20 per cent were examined, so that only 12 per cent of the children of this age had their defects "corrected." In the city where 60 per cent were examined and 50 per cent treated there was least waste of effort.

Weighing.—All but two cities reported the weighing and measuring of children. In six cities this is done monthly, in one every 6 weeks, in three four times a year, in six three times, in 13 twice a year, and in 15 yearly. In 19 cities the weighing and measuring is done by a nurse, in 10 by the teacher, in 7 by the nurse and teacher, in 6 by the

physical education teacher, in 2 by the physician, in 1 by the physician and nurse, in 1 by the physician and teacher, and in 1 by the nutrition worker.

The weighing and measuring is done in all grades in 32 cities, from kindergarten to eighth grade in 6, from first to seventh grades in 2, from first to sixth in 2, from first to fourth in 1. The other cities did not report.

Dental examinations.—To the inquiry as to whether all children were examined by a dentist, dental hygienist, or by both, only 16 report examinations by a dentist, 5 by a hygienist, and 9 by both.

Communicable diseases.—Thirty-eight cities report daily inspection of children for signs of communicable disease; 3 report "some" such inspections; 8 report no inspections. Forty-eight cities report the prompt isolation of such cases. Forty-four cities report daily inspection for cleanliness, 2 report "some" inspection; 2 do not answer the question.

Examiners for defects.—The eyes of the pupils are examined in 27 cities by the physician, in 32 by the nurse, in 12 by the teacher, and in 6 by the physical education teacher. (Examinations are of course made by more than one of the above officials in some cities.) The combination of examiners reported can not be given here.

The examiners of hearing are given as follows: In 31 cities, the physician; in 27, the nurse; in 10, the teacher, and in 4, the physical education teacher. For nose, throat, and teeth the examiners were about the same; physician in 40 cities; nurse, 20 cities; teacher, 4 cities; physical education teacher, 3 cities. The examinations of the lungs and heart are conducted in 40 cities by the physician, in 7 by the nurse, and in 2 by the physical education teacher. For orthopedic conditions the physician examines in 39 cities; the nurse in 13; the teacher in 2, and the physical educationist in 9. As regards the nervous system, the examiners are: In 39 cities the physician, in 9 the nurse, in 2 the teacher, and in 2 the physical education teacher.

No examinations of the heart and lungs are reported for six cities and none for speech defects from as many cities.

The clothing is removed to the waist for examinations in 19 cities. It is entirely removed in only one city. (On some replies it is noted that "the State law forbids removal of clothing.")

As regards the examination of teachers, 27 cities report an examination on employment and in 4 cities health certificates are required. Four cities give an annual examination, 2 at "end of probation period," 10 on request or "when needed," 4 after illness, 1 after extended leave, 1 every three years.

Parents at examinations.—The per cent of parents reported in attendance on the first examination of children varied from none to 100. Seven cities say that none were present; six cities report a

"small" percentage; three report 5 per cent; one, 10 per cent; one, 15 per cent; two, 20 per cent; two, 25 per cent; one 33 per cent; two, 50 per cent; one, 70 per cent; two, 75 per cent; one, 80 per cent; one, 85 per cent; one, 90 per cent; and two, 100 per cent. Probably these percentages do not represent parents but percentage of children attended by at least one parent.

The "follow-up" work is done in 35 cities by the nurses, in 4 by nurses and teachers, in 1 by nutrition workers, nurses and teachers, in 1 by physical education teachers and nurses.

School clinics.—School clinics of some kind are conducted in 33 cities. Fifteen of these are reported as general clinics of which 11 are for diagnosis; 6 furnish treatment (probably chiefly dental); 13 of these clinics are free. Thirty cities have dental clinics, 16 of which furnish treatment. Of the 30, 4 only are pay clinics. Twelve cities have free eye clinics. Fourteen cities have orthopedic clinics, most of which furnish treatment. All are free for those for whom they are intended.

Psychological clinics are reported by 18 cities. Fifteen of these are for diagnosis and are also for "treatment." They are all free.

Seven cities report special clinics other than for the purposes named, as for metabolism, for speech defects, and for immunization.

Outside clinics.—In 41 cities clinics supported by outside agencies are available for the treatment of children; 3 do not have such clinics and 5 do not report.

To the question "What per cent of children leave school with sound (natural or filled) teeth?" 32 cities made no response. Seven said that it was "unknown" or there was "no record." One reports 25 per cent; one, 35 per cent; one, 45 per cent; two, 50 per cent; one, 75 per cent; one, 80 per cent; two, 85 per cent; one, 86 per cent; and one "about 90 per cent."

Health Education

As regards "the person giving instruction in personal or community hygiene" 47 cities reported as to elementary schools. Apparently there is no health teaching in these grades in two cities. In 14 cities the teacher gives this instruction and in 40 the teacher, together with some specialist, does this work. A "special health teacher" (doubtless a supervisor) is mentioned by 10, the physical education teacher by 23, the physiology teacher by 9, the nurse by 7, the general science teacher by 5, and the biology teacher by 2.

Forty school systems reported as to the health instructors in junior high schools as follows: "Regular" teacher, 12 cities; special health teacher, 14; physical education teacher, 33; biology teacher, 6; general science teacher, 15; physiology teacher, 4. Combinations of 2, 3, 4, and 5 teachers are reported by 27 cities and one is reminded of

the adage, "What is everybody's business," etc., which may or may not apply.

Forty-one cities report health education in high school which (if thorough) is too good to be true. In only seven cities is one person responsible for this teaching (the physical education teacher) and combinations of 3, 4 and 5 teachers are even more common than in junior high schools. The teachers reported are: Physical education teacher, 35 cities; biology teacher, 22; general science teacher, 20; special health teacher, 13; physiology teacher, 11; nurse, 3. It is safe to say that in no city do all of the high-school pupils come under any of these except the special health teacher and the physical education teacher.

Thirty-four cities report the "definite" correlation of health teaching with other subjects of the curriculum, the six say there is "some" correlation.

Seven cities report that this correlation is brought about by the principal; 11 that it is done by the teachers, or teachers and supervisors; 5 that it is done by the director of health, and 3 that it is accomplished by the department, or director, of physical education.

As to "what other measures are used in schools to promote the health of children," 22 cities report "health clubs"; 9 "modern health crusade"; 3, "blue ribbon children"; 2, "5-point children"; 3, cards, records, etc.; 16 have no such schemes or make no report.

Thirty-seven cities report home cooperation with school health work. The Parent-Teachers' Association is mentioned as a help to this end in 7 replies; the Home League by 1; parents' meetings are mentioned by 4; "visits" are mentioned by 17 (probably by the nurse), and the nurse is mentioned specifically by 12.

Only one city supports a summer camp for all children who may wish to attend. This camp is run for 5 weeks and is attended by 2,000 children. Three other school systems support summer camps for delicate children, one of these is for 8 weeks and three for 10 weeks.

Special Nutrition Work

Nutrition classes are conducted in 24 cities and 6 cities report "some" classes. In 20 cities 48,675 children are reported as being in such classes during the past year. Such classes are variously conducted, chiefly by teachers, nurse, physical education teachers, and nutrition teachers. Only 5 cities mention "special nutrition teachers"; 2 mention domestic science teachers, and 1 dietitians (for classes in junior and senior high schools). Only two cities report their nutrition teaching as applying to all pupils in their schools.

As regards the "basis for selection" of children for nutrition classes "underweight" is the answer given in most cases. In 9 cities these children are selected by the physician, in 11 by the nurse or nurse and teacher.

In 10 cities a hot noon lunch is provided for elementary school children. Doubtless in the other cities it is not needed.

In 31 cities a "mid-morning milk lunch is provided for those who desire it."

Twenty-two cities report open-air schools and 15 (5 included above) report open-window rooms. The total number of children reported in the open-air schools of 19 cities was 3,652, and in 16 cities the open-air classes contained 16,287 pupils.

Physical Education

In the cities reporting, 87.2 per cent of the elementary schools have playgrounds, 37.7 per cent are supplied with gymnasiums, 50 per cent, playrooms, and 1.2 per cent have swimming pools.

Of all junior high schools 80.7 per cent have playgrounds, 91 per cent have gymnasiums, and 20 per cent have pools.

Of all high schools 68 per cent have playgrounds, 96.5 per cent have gymnasiums, and 25.6 per cent have pools.

Twenty-two cities (nearly half of those reporting) have supervised play after school. From 8 to 75 per cent of the children take part in these activities, with an average of about 40 per cent. Seven cities report that they conduct such activities on Saturday.

Mental Hygiene

For "the early discovery of abnormal mental disturbances" eight cities report psychological clinics or child guidance clinics. One reports "psychiatric surveys." Four cities report the employment of psychologists and seven more report "psychological examinations." Six mention "mental tests." One city has "daily class inspection by teachers instructed in means of detecting symptoms." Fifteen cities make no answer to this difficult question. It is evident that in most cases it was understood that something more than Binet testing and grading was intended by this question.

Judging from the replies there seems to be ample means at hand in most cities for the treatment of such abnormal mental cases as are found. In the city in which "daily examinations" are made by teachers the children with abnormal symptoms are reported as being "referred to psychology division and mental hygienist." Special classes, "opportunity classes," etc., are reported by a number of cities.

Conclusion

Twenty-six cities seem to be "satisfied with the present plan of health work in their schools," although one of these cities excepts its senior high schools. We were not aware that very thorough work was done in the high schools of any city. Ten do not answer the

question; 10 say "no" and 5, "fairly." Probably some of those that answered "yes" referred strictly to their "plan" of work as some of these state that they need more personnel. The needs mentioned are "more personnel," "more funds," and "better correlation." One city reports that it is "conducting two experimental and demonstrational health units" and one has "1,000 teachers taking courses in health education."

Cities Having A Population of 30,000 to 100,000

One hundred and twelve cities (62 per cent) furnished information.

Administration

In 78 per cent of the cities responding to our inquiries regarding the administration of medical inspection this is under the department of education, in 14 per cent under the department of health; in 6 cities (5 per cent) it is managed jointly; in 3 cities it is under the department of education, department of health, and "other" agency; and is in 1 under the department of health and "other." Eleven cities (10 per cent) did not answer the question and so probably have no organized medical inspection.

Dental inspection is under the department of education in 65 cities (60 per cent) and under the department of health in 16 (15 per cent) cities of those furnishing information on this point. In 6 cities it is managed jointly; in 5 by some "other agency"; in 3 by the department of education and an "other agency"; in 2 by the department of health and "other agency." As 17 cities furnish no answer it is evident that about 15 per cent of cities of this size do not have dental inspection.

Physical education is administered by the department of education except in two where it is managed jointly by the departments of education and health (as are also medical and dental inspection), and one where it is under the direction of the department of education and some "other" agency.

Health education is under the administration of the department of education except in four cities where it is managed jointly, two of these being the cities where physical education is also managed jointly.

"Nutrition work" is reported by 70 cities of this group. In 52 cities this work is under the department of education, in 1 under the department of health, in 12 under some "other" agency, and in the remainder it is under joint control of some combination of agencies.

Where "mental hygiene" is reported (52 cities) it is under the department of education in 35, the department of health in 4, some "other" in 13, and it is managed jointly in 2.

The control of communicable diseases is under the board of health in 40 cities, the department of education in 16, managed jointly in 34. No report is given by 24 cities and it is to be inferred that in these no effort is made in school looking toward the control of these diseases or that they do not exist.

The sanitation of buildings and grounds is under the administration of the department of education in 79; under the department of health in 6; it is jointly managed in 6. There was no report from 22 cities.

Expenditures

In the 56 cities furnishing data an average of 81 cents per child (school census) is paid for medical and dental inspection. The highest is $2.10 and the lowest 9 cents per child. (We have already noted that a number of cities have no such activities.)

In the same cities an average of $1.32 per child is paid for physical education, with a maximum of nearly $5 and a minimum of 14 cents.

Figures for the cost of health education were given by 13 cities (and in all but one separately for physical education). The average expenditure per pupil under this heading in these cities was 65 cents; the highest $1.78, and the lowest 11 cents. In the city spending the highest for "health education" the expenditures for "physical education" were $1.85 or approximately the same. In some cities these were five times as high as for "health education."

In the 10 cities reporting expenditures for mental hygiene the average was 19 cents per child. Whether this includes the salaries of teachers of special classes we do not know.

"Other forms" of health work reported were "open-window rooms," "opportunity rooms," "sight-saving classes," "summer round-up," "orthopedic classes," "hard-of-hearing classes," "speech improvement classes," and health centers. No specific questions were asked regarding these activities.

Personnel

Seventy-four cities reported regarding the director of school health work. In 17 he (or she) is called a director of health or director of hygiene or the equivalent of these terms; in 9 it is the superintendent or assistant superintendent of schools; in 24 it is the medical inspector or chief medical inspector; in 6 it is a nurse or supervising nurse. In six cities of one State and in five other cities it is the city health officer. (In these cities the administration of school health work comes, of course, under the department of health.) A director of physical education is at the head in two cities.

In 53 cities this "official in general charge of all health work" does not have charge of physical education; in 18 cities he does. No answer to this question was received from the remaining three cities which replied to the previous question.

The average number of children (school census) per school physician in the cities furnishing information was 6,525. The highest number was 30,300 and the lowest 1,000.

The average number of children per nurse was 1 per 3,100, the highest 1 per 24,225 and the lowest 1 per 1,290.

The average number of children per dentist in 79 cities was 9,680. (Only 22 cities of this group employ more than one dentist and most of the dentists are on part time.)

The average number of children per physical education teacher was 1,215, the highest number 13,570, and the lowest 400. (All of these figures, and especially the maximum and minimum numbers, are probably misleading, as much of the physical education work may be carried out by regular teachers under direction. In at least one city of considerable size no physical education teachers are reported.)

Time and salaries. Drawing the line as regards part-time work at less than 25 hours per week, the school physicians in 80 per cent of cities reporting are part-time workers. In 19 cities they work for 30 or more hours; in 9 they work for 40 or more hours. In all cities where the physicians work 40 or more hours only one is employed. Physicians are employed from 9 to 12 months. In 48 cities they are engaged for 10 months; in 21 for 12 months.

The highest maximum salary offered (for 12 months and 45 hours per week) is $6,000. The salaries for full-time men range from $2,000 up, most of them being above $3,500. In 24 cities the salary reported is $3,600 or more; in 19 it is $4,000 or more; in 5 the maximum reported is $5,000, and in one $6,000.

In 12 cities the average maximum salary per hour for part-time physicians was $3.46. For 15 cities the average maximum for full-time physicians was $2.59.

In 60 cities nurses are employed for 10 months; in 5 for 9 months; in 10 for 11 months; and in 9 for 12 months. Five report a 9½-month year. The hours per week range from 6 to 54. In 16 the nurses work 30 hours; in 8, 35 hours; in 15, 40 hours; and in 12 more than 40.

The highest maximum salary is $2,800 and the lowest $1,000. The highest minimum is $1,900 and the lowest $850. Sixty cities pay a maximum of $1,200 or more. Thirty-two cities pay $1,400 or more; 19 start their nurses at $1,500 or more. Fifty-one cities pay a maximum of $1,800 or more; 29 pay $2,000 or more; and seven pay $2,500 or more.

Dentists are employed from 8 to 12 months but most of them for 10. The average time is 10¼ months. The hours range from 4 to 44 per week. In 54 cities furnishing information the dentists in only 18 work 20 hours or more and in only 9 do they work for 30 hours or more. As more than 1 dentist is employed in only 23, the dental work in most of these cities can be only of an emergency nature.

Oral hygienists are employed by 35 cities. Nine of these cities employ 2, five employ 3, four employ 4, and one employs 5. In seven of the cities employing a hygienist no dentist is employed. The salaries range from $1,000 to $2,550. Eleven cities pay a maximum salary of $1,800 or more and four pay $2,000 or more.

Physical education teachers are employed for 9 or for 10 months (depending on the length of year). None are employed longer except in one city where they work for 11 months. The hours reported are from 6 to 40, those working few hours being probably coaches or teachers of more than one subject. The usual hours are from 25 to 40 per week. In 18 they work 30 hours; in seven, 40 hours; and in one, 50 hours. For full-time workers the minimum salaries range from $840 to $2,400. The maximum salaries run from $1,540 to $7,000. Only 10 cities pay less than $1,200 to beginners and 15 pay $1,500 or more. Only two pay a maximum salary of less than $1,800. Only 17 pay less than $2,400. Twenty-five cities pay $3,000 or more and five pay a maximum of $4,000 or more.

Health teachers are reported by only 11 of these cities. One of these cities employs 8; one, 13 (in addition to 11 physical education teachers); another 10; and another 7. One superintendent remarks that "all teachers are health education teachers." The salaries reported range from $1,800 to $3,100.

Eighteen cities (only three of which employ "health teachers") report special "nutrition workers." Two cities employ 7; one, 6; one, 3; and one, 2. The salaries run from $1,000 to $2,400.

Health Examinations

Fifty-one cities (45 per cent) report the examination of children before entrance to school and nine make "some" examinations. The numbers (other than "some") examined run from 5 to 100 per cent. Seven cities examine 100 per cent; one, 99 per cent; one, 98 per cent; three examine 90 per cent; three, 75 per cent, and four, 50 per cent.

The percentage of those found defective who are treated was from 2 per cent up to 80 per cent. Only two cities report more than 50 per cent and only four cities 50 per cent.

One city which examined 98 per cent of these children and secured treatment for 80 per cent of those found defective has far outdistanced the other cities of this group in effective work.

Seventeen cities which reported the number examined gave no statistics as to the number of defectives treated.

Weighing and measuring.—The weighing and measuring of school children is reported by all but 13 cities. In 38 this is done monthly, in 2 five times a year, in 4 four times, in 9 three times, in 22 two times, and in 13 yearly. The other cities report less definite periods.

In 37 cities this is done by the nurse, in 31 by the teacher, in 13 by the nurse and teacher, and in 34 by combinations of these and other

special workers. In 33 cities weighing and measuring is done in all grades; in 4 from the first to the tenth. In most it is not done beyond the ninth grade.

Forty-eight cities report that all dental examinations are made by a dentist; 18 that they are done by a dental hygienist; in 17 they are done by both.

In 101 cities of this class the teachers make a daily inspection for signs of communicable disease. In 110 cities children showing such signs are promptly isolated. In 102 cities there is daily inspection by the teacher for cleanliness.

Examiners for defects.—Only one city of this group does not report the examination of the eyes (vision) of pupils. In 79 cities this is done by the nurse (in 26 of these cities there is also some other examiner). In 53 cities the examination is made by a physician (in 32 there is another examiner, usually a nurse); in 28 cities the teacher does all or some of the examining; and in 8 cities the physical education teacher may be the examiner.

Four cities make no report regarding an examination of hearing. In 64 cities the physician examines (with other examiners in 28 cities). In 69 cities the nurse examines (with others in 27 cities). In 20 the teacher tests the hearing (with others in 15), and in 5 cities the physical education teacher does some of this work.

The examiners for nose, throat, and teeth are practically the same. The physician is mentioned by 86 cities, nurse by 53, teacher by 7, and physical education teacher by 4. The report of so many examiners for dental defects does not quite check with the reports for examination of teeth by dentists and dental hygienists previously given.

Twenty cities do not report examinations of either the heart or lungs. The examiners reported are about the same for both organs. In 92 cities a physician, in 17 a nurse, in 2 a teacher, and in 2 a physical education teacher (possibly the "teachers" are physical education teachers).

For orthopedic examiners 18 cities do not report. An examiner in 85 cities is the physician, in 27 the nurse, in 12 the physical education teacher, and in 4 the teacher.

Thirty-four cities do not give examinations for nervous conditions. In 73 this is the physician, in 21 the nurse, in 6 the teacher, and in 1 the physical education teacher.

Twenty-five cities do not report examinations for speech defects. For these the physician is named as examiner in 54 cities, the nurse in 31, the teacher in 35, and physical education teacher in 3. Why the grade teacher is not an examiner for such defects in all the cities of this group is a mystery beyond the compass of the compiler of these statistics.

Forty-one cities report that clothing is removed to the waist for physical examinations and 22 say "on occasion." Just how the lungs

and heart are examined in some of the 86 cities reporting the examination of these organs is not revealed. Three cities report the removal of all clothing and 17 "on occasion."

In 32 cities a physical examination of teachers is made when they are employed, and in 9 a health certificate is required. In 4 of the above cities a yearly examination is given and in 24 "at other times."

Only 44 cities report a "few" or more parents present at the examination of the child and 32 give the percentage present. Two cities report 1 per cent; one, 2 per cent; one, 4 per cent; one 5; four, 10; one, 12; one, 15; two, 25; one, 33; three, 50; one, 55; two, 60; one, 62; one, 75; one, 78; two, 80; one, 85; one, 86; one, 90; and three, 100 per cent.

Follow-up work is usually done by the nurse. In 13 cities it is done by the nurse and teacher, in 4 by nurse and physical education teacher, in 16 by other combinations of workers. Eight cities make no report.

Clinics.—Sixty-seven cities report clinics of some kind conducted by the schools. In 65 cities these are dental clinics and in 46 of these dental clinics treatment is furnished. In only 11 of these clinics is a charge made. In 25 cities there are "general" clinics. These are chiefly for diagnosis and in only 10 is treatment given. A charge for treatment is made in three of these clinics. Thirty cities have special clinics for the eye, all of which are free except two. Twenty-one have orthopedic clinics, only one of which is a pay clinic. Nineteen cities have "psychological" clinics and efforts at treatment are reported by five.

In 70 cities there are clinics supported by outside agencies which afford treatment of school children. Sixteen cities report that there are no such clinics and 27 make no report.

Dental results.—Thirty cities give a definite answer to the question "What per cent of children leave school with sound (natural or filled) teeth?" (The number of teeth present was not asked for.) Two report 20 per cent; one, 25; two, 30; one, 40; one, 47; three, 50; one, 54.3; one, 60; one, 65; one, 70; five, 75; two, 80; one, 85; one, 88; five, 90; one, 95; and one, 96 per cent.

Health Education

One hundred and four school systems reported regarding instruction in personal and community hygiene. In 92 instruction in these subjects in elementary grades is given by the grade teacher and in 39 without assistance, in 41 with the assistance of the physical education teacher, in 10 with the help of a "special health teacher." In 6 a biology teacher helps, in 17 a physiology teacher, and in 8 a general science teacher, and in 4 a nurse assists. In four the physical education teacher apparently does all the instructing and in one the

physiology teacher. In a few cities 3 persons take part in the instruction; in three cities, 4, and in one, 6.

Eighty-four cities reported with regard to junior high schools. The "regular" teacher helps with the health instruction (and in a few instances does it all) in 31 cities, the physical education teacher assists in 57, the general science teacher in 34, the physiology teacher in 34, the biology teacher in 17, a special health teacher in 14, and some "other person" in 13. In all but 10 cities this teaching is reported as done by more than 1 person and often by 3 or 4. Eighty-nine cities replied as to such teaching in high schools. In 67 it is done in whole or part by the physical education teacher, in 51 by the biology teacher, in 37 by the general science teacher, in 23 by a physiology teacher, in 14 by a special health teacher, in 16 by the "regular teacher," and in 15 by some "other" person. Some combination from two to six teachers is reported in nearly all cases.

Seventy-three cities report that health teaching is "definitely correlated with other subjects." Forty-three cities report the organization of "health clubs", 15 mention the "modern health crusade"; four have "ribbon awards", five mention "five or six point" awards.

In 77 cities the cooperation of the home is secured (the degree not specified); in 17 "some" cooperation is had. In the majority of cases "visits" are mentioned as the means of attaining this end; the Parent-Teacher Association is mentioned by 18.

Only one city of this class supports a summer camp for such children as wish to attend. This is held for 8 weeks and 5 per cent of the children attend. Only five have summer camps for delicate children. Two of these are open for 8 weeks, two for 6 weeks, and one for 7 weeks.

Special Nutrition Work

Fifty superintendents state that they have "nutrition" classes in their schools. These are usually conducted by teachers and nurses. Home economics teachers are mentioned in nine reports and "nutrition workers" in five. The number of children reported as "cared for in these classes" in 31 cities was 17,019. Children are usually selected by the nurse or nurse and physician.

In twenty-two cities a "hot lunch" is served at noon in elementary schools for those who desire it. Seventy-seven cities "provide a mid-morning milk lunch for those who desire it," and two others state that they do "if paid for by children." Probably in most cases the lunch is paid for by the children if they can afford it.

Twenty-seven cities report "open-air schools" with 1,230 pupils enrolled. Thirty cities have 409 open-window rooms housing 25,205 children. Nine of the cities reporting "open-air schools" also report open-air classes. Two southern cities report "all" pupils as in open-air classes. These are not included in the figures given above.

Physical Education

In the 99 cities reporting, 93.9 per cent of the 1,637 elementary schools have playgrounds, 31.7 per cent have playrooms, 23.5 per cent have gymnasiums, and 1 per cent have swimming pools.

In 79 cities reporting with regard to their 224 junior high schools, 80 per cent of these schools have playgrounds, 83.7 per cent gymnasiums, 8.1 per cent playrooms, and 7.7 per cent pools.

In 96 cities reporting regarding their 145 high schools, 76.7 per cent have playgrounds, 5.5 per cent playrooms, 93.4 per cent gymnasiums, and 23.9 per cent pools.

In regard to supervised play after school, 42 cities answer "yes"; 55 "no"; 3, "in high school"; 9, "some"; and 5 make no report. In the 30 cities furnishing a definite answer to the percentage of pupils participating in after-school play one gives 5 per cent; two, 10 per cent; three, 20 per cent; six, 30 per cent; two, 35 per cent; one, 38 per cent; four, 40 per cent; four, 50 per cent; three, 75 per cent; one, "80 per cent of junior high school"; one, 81 per cent; and two, 100 per cent. In most cities all grades participate in these activities.

In 21 cities supervised play activities are conducted on Saturday and in 9 cities there are "some" such activities.

Mental Hygiene

To the question, "What measures do you take for the early discovery of abnormal mental disturbances?" seven cities report examination in their own psychiatric clinic, and four, examinations by State officials or at State clinics. Seven mention "child guidance" or "habit" clinics. Seven employ a psychologist, psychiatrist, or psychometrist, and one school system has a psychologist and two assistants; one a psychologist and a psychiatrist; two have a "visiting" or "consulting" specialist. In cities of Massachusetts, Pennsylvania, and Wisconsin examination of suspicious cases by the State psychologist or psychiatrist is mentioned.

As to arrangements for treatment of such cases (a question not easy to answer) 19 cities mention "special classes" or "opportunity schools."

Conclusion

In this group of cities 42 are satisfied with their present plan of health work; 28 only fairly so. Thirty-three are not satisfied and the rest did not report. Those superintendents who are not satisfied consider that their present plan "does not go far enough" and the needs most frequently mentioned are "more funds" and "more personnel." One mentions the "mixed authority of the boards of education and of health" as a detriment to this work. Two mention lack of space for play. One mentions the indifference of the public.

One city in which the work goes fairly well "would like a better method of ascertaining the undernourished child than mere weighing." One school system has "just begun this work."

Cities From 10,000 to 30,000 Population

Administration

A total of 303 cities (59 per cent) of this size answered our questions. As regards the administration of medical inspection, 51 cities (17 per cent) did not report and doubtless these have no medical inspection. In 188, or 76 per cent, of those having medical inspection this is under the direction of the department of education; in 39 (16 per cent) it is under the department of health; in 13 (5 per cent) there is "joint control"; in 8 it is under some "other" direction and in four it is under the department of education or of health and some "other" organization.

Ninety cities made no report concerning dental inspection so that we must infer that no special dental service is maintained in these cities. In 131 the administration of this work is conducted by the department of education, in 33 by the department of health, in 32 by some "other" organization, and in the remainder there is joint control.

Forty-three cities do not mention the supervision of physical education except for two cities in which this is directed by the department of health, one in which the departments of education and of health manage these activities, one "other" and two by the department of education and "other." The school departments of the 254 remaining cities manage their own physical activities.

Twenty-two cities report their health education work as managed by the department of health or by some joint arrangement; 68 cities do not report. In 213 it is directed by the schools.

One hundred and sixty-six cities do not make special mention of the director of "nutrition work." In 89 of those reporting it is managed by the department of education, in 9 by the department of health, in 22 by some "other" agency, and in 16 jointly.

One hundred and five cities did not report as to who is responsible for the sanitation of schools. In those which did report the department of education is in charge in 167 cities; the department of health in 14, some other agency in 1, and the responsibility is divided in 16.

Ninety-eight cities do not report concerning the control of communicable diseases and it is safe to say that in these cities there is little or no control. In 92 the department of education is responsible, in 100 the department of health, in 56 there is joint control by these two authorities, in 3 cities some other organization is responsible, and in 4 there is some other joint control.

There is no report concerning the management of mental hygiene in 246, or 80 per cent, of cities. In 42 it is reported as a function of the department of education, in 4 the department of health, and in 17 some other organization, and in 4 the responsibility is divided.

Other health activities are reported by 18 cities.

(Home nursing is reported by 218 cities, but undoubtedly this does not in most of these places refer to special teaching along this line.)

Expenditures

The costs of medical and dental inspection were furnished by 142 cities. The average expenditure per child (school census) in these cities was 55 cents; the highest was $3.51 and the lowest (dental inspection only) was 9 cents.

The cost of physical education was given by 121 cities. The average per pupil was $1.31, the highest $7.22, and the lowest 3 cents.

The expenses of health education (which in some cities may or may not have included physical education) was 45 cents per pupil. The highest was $1.58 and the lowest 2 cents. As for physical education these expenditures are doubtless always for the salaries of special teachers and do not represent all expense along these lines.

The cost for nutrition work (again probably salaries to special workers) for the 26 cities reporting was 26 cents per child, and ranged from 1 cent to $1.41.

Personnel

The title of the official in charge of school health work was furnished by 167 cities. In 52 it is the school nurse; in 32 the superintendent; in 24 the county or city health officer; in 20 the school physician; in 11, directors of health and physical education; in 28, miscellaneous. In only 39 cities does this official have charge of physical education.

In 180 cities (60 per cent) one or more physicians are employed. In all but 11 of these cities one or more nurses are employed and 89 cities have a school nurse and no physician. Thus 90 per cent of this group of cities report either a physician or nurse or both.

Time and pay.—Physicians are usually employed for 10 months. In 25 cities they are employed for 12 months; in 20 they are employed for 9 months and in a few for 9½ months. The number of hours spent in school per week ranges from 1 to 50.

Sixty cities give the number of working hours. In 38 of these the physician is employed for 15 or less hours per week; in 4 they work for 20 hours; in 5, for 25; in 5, for 30; in 1, for 33; in 1, for 35; in 1, for 39; in 2, for 40; in 1, for 41; in 1, for 48; and in 1, for 50. In the cities which do not furnish the working hours one may infer that these are not many per week. This being the case, in only 13 cities are the physicians employed for the usual school hours or more.

The salaries of school physicians in these 13 cities range from $2,500 to $5,500, only one being below $3,000. In the cities where the physicians work 15 hours or more per week the average salary per hour was $2.24. In 27 cities employing physicians for fewer hours the cost per hour was $4.01. In one city the cost was $11 per hour.

Nurses are employed for about the same number of months (depending on the length of the school year) as are physicians. In 36 cities they are employed for 12 months and in 14 for 11 months. In a few cities nurses (no doubt public health or "visiting" nurses) are employed for a few hours (5 to 8 hours). This is the case in only 8 cities out of 110 reporting the number of hours per week. The average number of hours per week is 34. One city reports the hours as 72 and one 65, and another 62. These cities evidently believe in getting their money's worth. One city reports 54 hours and five 50 hours. In 34 cities nurses are employed for 40 hours, in 18 for 35 hours, and in 28 for 30 hours. The salaries paid do not correspond with the hours, as some nurses who work 30 hours per week receive more than those who work 40 or even more hours. The minimum salaries range from $1,000 to $2,600 and the maximum (often only one nurse is employed) from $1,000 to $4,300. The next highest salary is $3,875 and the next $2,900.

Data regarding dentists are furnished by only 68 cities. These workers are employed from 4 to 12 months. Where employed for the full year it is evident from the salary that they are full-time people. The hours per week vary from 4 to 40. In only 10 cities do the dentists work for 20 or more hours. The pay of dentists varies extremely. Those working for 25 hours or more receive from $1,600 to $3,600 (40 hours per week, 12 months).

Dental hygienists are employed by 53 cities (with a total of 60 for these cities). Only a few are employed where there is no dentist. Salaries range from $1,000 to $2,900. Only one pays more than $1,900 and only two more than $1,750. Four cities pay $1,700.

Two hundred and twenty-four cities of this group report the employment of 862 special teachers of physical education. This is about 1 teacher for 1,160 pupils (school census). The average number of months for which they are employed is 9¾. In only three cities are they employed for more than 10 months, and in two of these only a part of the staff work longer. The hours per week vary from 6 to 72. (There is probably an error in this maximum.) In 19 cities the hours are from 40 to 45. The minimum salaries range from $540 to $2,975. They are rarely below $1,000. The maximum salaries are between $1,200 and $4,600. In 41 cities the maximum is $3,000 or more and in 10 cities it is $4,000 or more.

Only 18 cities of this group report full-time special "nutrition workers." Six cities have such special workers employed, for full or

part time, by some other agency. One superintendent states that "all teachers" are nutrition teachers, as they should be. Eight cities report special "health teachers."

Health Examinations

In this group of cities 112 report the physical examination of at least some children before entrance to school. The percentage examined was not given by all. In two cities 2 per cent were examined; in one, 6 per cent; in four, 10; in one, 15; in three, 20; in five, 25; in three, 30; in three, 33; in one, 35; in one, 36; in six, 40; in one, 45; in thirteen, 50; in two, 55; in six, 60; in eleven, 75; in five, 80; in three, 90; in five, 95; in two, 98; and in thirteen, "all."

The percentage of children found defective who received treatment is reported by 74 cities. It varies from 3 to 90 per cent. In 33 cities it was 50 per cent or more. One city reports 100 per cent examined and 80 per cent treated. Another with 100 per cent examined secured treatment of 70 per cent. These returns are in marked contrast to the waste of time and effort reflected by such figures as 100 per cent examined and 10 per cent of the defective treated. A record of 50 per cent examined and 90 per cent treated is much better.

In 97 of these cities weighing and measuring of children is done monthly; in 22, every 6 weeks; in 15, three times a year; in 52, twice a year; and in 50, yearly. In 31 there is some other interval between weighings. There was no report from 35. Work is done by the teacher in 94 cities; by the nurse in 111; by the school physician in 10; by the nurse and teacher in 46, and by some other combination of workers in 14. Twenty-eight cities did not furnish information. In 84 cities pupils of all ages are weighed and measured. In many only the elementary grade children have this privilege.

One hundred and sixteen cities say that all dental examinations are made by a dentist, and 27 by a dental hygienist. In 18 it is done by both. In 271 cities the teacher makes a daily inspection for signs of communicable disease (unfortunately it was not asked as to whether the teachers are instructed regarding these signs). To the question, "Are the children with such signs promptly isolated?" 294 cities report that they are. In 274 cities the teachers make a daily inspection for cleanliness of pupils.

Examiners for defects.—The vision of the pupils (grades not stated) is examined in 291 cities (99 per cent). In 215 the nurse is the examiner (often the sole examiner); in 129, a physician; in 82, the teacher; and in 18, the physical-education teacher. In 286 (95 per cent) the hearing is examined; in 192 by a nurse, in 154 by a physician, in 55 by the teacher, and in 16 by the physical-education teacher. In 279 (93 per cent) the nose is examined; in 164 by the nurse, in 181 by a physician, in 39 by the teacher, and in 7 by the physical-education

teacher. In 189 (63 per cent) the throat is examined; in 173 by the nurse, in 189 by the physician, in 32 by the teacher, and in 8 by the physical-education teacher.

In 286 cities the teeth are examined; in 164 by the nurse, in 185 by the physician, in 30 by the teacher, and in 6 by the physical-education teacher. (Just how these figures are to be reconciled with those given previously for dental examinations by dentists or dental hygienists can only be explained in that these workers are counted as physicians in filling out the question, dentists not being mentioned in the questionnaire at this point.)

In 217 (72 per cent) the heart and lungs are said to be examined. In 193 this is done by the physician, in 65 by the nurse, in 14 by the physical-education teacher, and in 7 by the teacher. In the same number of cities the heart is examined; in 194 by the physician, in 58 by the nurse, in 17 by the physical-education teacher, and in 5 by the teacher.

In 212 cities (70 per cent) there are orthopedic examinations; in 166 by a physician, in 79 by a nurse, in 32 by a physical-education teacher, and in 8 by a teacher. The "nervous system" is taken into account in examinations in 179 cities. In 166 the physician examines; in 65, the nurse; in 18, the teacher; and in 5, the physical-education teacher.

Examination for speech defects is reported by two-thirds of the cities of this size; in 104 by the physician, in 93 by the nurse, in 73 by the teacher, and in 7 by the physical educator. Again we must remark that we do not see why there should be an examiner other than the teacher nor why all teachers are not examiners. Has the physical examination of pupils become so stereotyped that the physician and nurse must go hunting for what is daily exhibited to the teacher and which she is as competent to observe as they?

To the question "Is clothing removed to the waist for medical examination?" 103 cities answer "yes"; 41, "some"; 115, "no"; and 49 make no report. All of the clothing is removed for examinations in three cities. If the cities in which all or some clothing is removed are subtracted from those in which an examination of the lungs and heart are made we have 70 in which examinations of these organs are made with full clothing. Under these circumstances such examinations can about as well be made by a teacher or any other person as by a physician.

Teachers are examined before being employed in 72 cities, and 3 cities require a certificate of such an examination. Twenty cities make a yearly examination, 13 on request, and 11 in emergencies.

Five cities report 1 per cent of children accompanied by parents at their first examination; two cities, 2 per cent; three, 5 per cent; six, 10 per cent; one, 12½ per cent; two, 20 per cent; five, 25 per cent;

one, 30 per cent; one, 33; one, 35; two, 40; one, 44· seven, 50; two, 60; one, 70; one, 72; four, 75; three, 80; five, 90; two, 95; one, 98; and fifteen, 100 per cent. The remaining cities (about 80 per cent) report no parents or only a few present. In a few cities it is evident that the percentage of parents present was interpreted as referring to the examination before entrance to school. However, this amounts to the same thing as first examinations which are made after entrance.

In 214 cities "follow-up" work is done by the nurse, in 21 by nurse and teacher, in 13 by teacher and health teacher, in 3 by a "hygienist," and in 18 by other workers.

Clinics.—Clinics of some kind supported by the school are reported by 146 cities, or nearly half. In 102 cities there are dental clinics and in 68 treatment is given. These clinics are free in 77 cities.

In 58 cities there is a "general" clinic but in only 16 of these clinics is treatment afforded. No charge is made in 51 of these. Special eye clinics are maintained by 39 cities, and 22 of these are free; orthopedic clinics by 28 and "other" clinics by 28 cities.

"Psychological" clinics are reported by 27 cities.

In 139 cities clinics supported by outside agencies are said to be available for use by school children.

Seventy-five cities furnish information concerning the per cent of children leaving school with sound teeth. The percentages vary from 10 to 98 per cent. Seven cities claim that 90 or more per cent of their children leave school with sound teeth and 13 that 80 per cent or more have sound teeth.

Health Education

In 270 cities reporting, health education in elementary schools is conducted by the teacher with or without assistance in 241. In 103 cities the physical education teacher assists, but in only eight does this person do all of the teaching. In 45 there is a special health teacher (or regular teacher acting in this capacity). In 11 cities all teaching of this kind is done by this special teacher. In 11 cities the biology teacher assists, in 15 the general science teacher, in 52 a physiology teacher, and in 46 some other worker.

Two hundred and seven cities report regarding junior-high schools. The physical education teacher gives some or all instruction in health matters in 117 cities, the "regular" teacher in 86, a special health teacher in 34, a general science teacher in 69, a biology teacher in 29, a physiology teacher in 54, and some other teacher in 31.

Two hundred and thirty-seven cities reply as to health teaching in high schools. Here the physical education teacher figures largely—in 173 cities—and probably is the only teacher who comes in contact, health-education-wise, with all pupils. Consequently this teacher (as in junior-high schools) is about the only person reported in this

field where only one is mentioned. A special health teacher is mentioned in 35 cities (probably the same cities as those mentioning this teacher for junior-high and elementary grades). The biology teacher is reported by 124 cities, the general science teacher in 76, a physiology teacher in 48, and some other worker in 36.

Health teaching is said to be definitely correlated with the teaching of other subjects in 186 cities. This is usually managed by the "teacher." The superintendent and the principal are mentioned in a few answers.

For other measures promoting interest in health, "health clubs" are mentioned by 75 cities, the "modern health crusade" by 44; "blue ribbon" awards by 19. Thirteen cities have "5-point"; three, "6-point"; one, "7-point"; and one "9-point" child contests.

In 194 cities the cooperation of the home is said to be secured and in 40 there is "some" cooperation. For securing this, 93 mention visits to the homes, especially by the nurse. In 47, the Parent-Teacher Association is mentioned; in 28 "conferences" are mentioned, and in 39 the use of "bulletins."

Nutrition Work

In 72, or about 25 per cent, of these cities "nutrition classes" are conducted and in 27 "some" special work of this kind is carried on. Nurses and teachers are most frequently mentioned as conducting these classes. The home economics department is also mentioned. Fifty-five cities report 24,324 pupils in such classes.

Forty-six cities report the provision of a hot noon lunch in elementary schools for such children as desire it and 192 cities furnish a mid-morning milk lunch for those who desire it.

Open-air schools are reported by 16 of these cities with a total of 455 children enrolled.

There are open-window rooms in 16 cities and 15 other cities report that all rooms are open-window rooms, which probably means that all are ventilated by open-window methods.

Only one city supports a summer camp for all children who may wish to attend. It is conducted for eight weeks. One other city mentions such a camp supported by the rotary club and open for 10 weeks.

Five of these cities maintain camps for delicate children. These are usually held for eight weeks.

Physical Education

Two hundred and sixty cities (93 per cent) report regarding facilities for physical activities in elementary schools. In these cities there are 2,140 such schools and 92.4 per cent have playgrounds, 35 per cent have play rooms, 14.5 per cent have gymnasiums, and in six schools there are pools.

Regarding junior-high schools, 204 cities furnish information. There are 252 schools. For 75.7 per cent there is a playground, for 78.5 per cent a gymnasium, in 16.3 per cent there is a play room, and in 5.6 per cent a pool.

As regards high schools, 249 cities reported. Of 273 schools, 64 per cent have playgrounds, 86.3 per cent have gymnasiums, 11.5 per cent have play rooms, and 14.8 per cent pools.

In 63 cities there is supervised play after school and 22 other cities report "some." From 10 to 100 per cent of pupils avail themselves of this opportunity. Twenty cities report 50 per cent or more.

Twenty-five per cent of these cities report supervised play activities on Saturday and 23 cities "some."

Mental Hygiene

As regards "measures taken for the early discovery of mental disorders" a State or local clinic, or guidance clinic, or specially fitted examiner is mentioned by 34 cities.

Conclusion

Of these cities 89 are satisfied with their present plan of health work even if not with the results. In 98 cities things go fairly well. The shortcomings most mentioned are lack of funds and consequent lack of personnel. The lack of cooperation of parents in mentioned by a few.

Communities with a Population from 5,000 to 10,000

Of the 721 places having a population of from 5,000 to 10,000, 71 per cent (512) replied to our questions. In these cities there is a total of 4,043 schools. The number of pupils was asked for but was given for only 3,539 schools. The total of pupils in these was 917,247 or about 260 pupils per school. A number of 1-room schools (322) were reported but chiefly in New England towns.

Personnel

A full-time medical inspector is reported by 38 cities (7.5 per cent). He is employed by the board of education in 31 cities, by the board of health in 2, by the county in 2, by a volunteer organization in 1.

There is a part-time medical inspector in 243 (48 per cent) of these cities and in 182 (75 per cent) he is employed by the board of education.

There is a full-time nurse in 301 communities (59 per cent). She is employed by the board of education in 254 (83 per cent) of these cities.

A part-time nurse is employed in 110 (21 per cent) and by the board of education in 50 (45 per cent). In 21 this nurse is employed

by the State, county, or city as a public-health nurse and in 12 by some other organization than the department of education or health.

From these returns there is either a full or part-time nurse in 80 per cent of these schools, but the percentage will vary greatly by States.

A "special health supervisor" is reported by 46 (9 per cent) of these cities, 40 of whom are employed by the board of education, 4 by the "city," one by the board of health, and one by the Red Cross. Elsewhere the nurse is usually reported as in general charge of the health work.

In 381 cities (75 per cent) there is a physical-education director employed, in 350 by the school board, in 12 by the "city," in 5 by the county, in 4 by the county and State, and in the rest by other combinations of agencies.

Health Examinations

In 499 cities "the teachers inspect pupils daily for signs of communicable disease," and it is to be hoped that they know what these signs are. In all but two of these cities the pupils with such signs are promptly isolated and sent home, which statement is too good to be true.

All but 20 of these communities report the weighing and measuring of pupils, but 47 do not report how often this is done. In 6 it is done weekly; in 223 monthly; in 98 less often, but more than twice a year; in 96 twice a year; in 45 yearly; and in 2 every two years. In 184 the teacher does the weighing and measuring, in 177 the nurse, in 84 the nurse and teacher, in 11 the physician, in 6 the nurse and physician. In 10 there is some other combination of examiners, and 40 superintendents make no report.

Regarding a general medical examination 87 make no report and in 51 communities there is no such examination (a total of 27 per cent). In 73 per cent there are such examinations.

In 300 cities (59 per cent) this examination is given yearly, and in 40 twice a year. In 15 it is given every two years. In 220 the examination is made by a physician, in 42 by a nurse, in 66 by the physician and nurse.

In 456 cities (90 per cent) the eyes of the pupils are examined. In 354 this is done yearly; in 49 twice a year; in 11 every two years (a total of about 80 per cent). Eight report "irregularly" and the rest do not specify. In 177 this examination is made by a nurse, in 164 by a physician, in 35 by a teacher, and in the remainder by 2 or more of these persons.

The examination of hearing is reported by about as many superintendents, given as frequently as for vision and usually by the same examiners.

The examination of the teeth is reported by eight more cities than those which mention the examination of vision. In 335 this is done yearly, in 72 twice a year, in 7 more frequently, in 10 monthly. (Apparently eyes, ears, and teeth are examined in about the same schools and at the same time in most of them). Examination by a dentist is mentioned in 131 and by a nurse and dentist in 13. Evidently the service of a dentist, for at least examinations, is available in about 25 per cent of these cities.

For "follow-up work" in securing treatment of defects all but 68 mention some agent or agents. In 276 this is the nurse alone, in 27 the teacher, in 34 the doctor. More than one of these persons is mentioned in the remainder. The parent-teacher association is referred to in three reports.

General clinics for examination and treatment of pupils are reported as available in 164 cities (32 per cent). Of these 27 are traveling clinics, 137 are free, and 29 are pay clinics. Twenty-five are maintained by boards of education, 25 by some private agency, 19 by hospitals, 18 by city health departments, 17 by county health departments, 23 by the State department of health, 11 by physicians, 4 by nurses, 1 by a university, and 1 by a church.

Eye clinics are available in 98 cities. Thirteen are traveling clinics. In 25 there is a charge. Only 18 are supported by the schools.

Dental clinics are reported by 197 cities (39 per cent). It is quite probable that many of these are included in the "general clinics." Of these dental clinics 39 are traveling. In 70 there is a charge for some or all children. Seventy-seven (40 per cent) are supported by the board of education (the law requires the establishment of such clinics in some States).

Mental Hygiene

"Psychological clinics" are reported by 98 cities (nearly 20 per cent). In 42 these are traveling clinics (most of them conducted by a State department). A charge is reported in 11 clinics; 37 are under the jurisdiction of the State; 12 under local education authorities; 3 under local health authorities; 8 are conducted by county authorities; 6 by universities; 7 by hospitals; 5 by private agencies; 4 by "research agencies"; 16 by local medical associations; 1 by a judge, and 1 by a church.

"Other" clinics are reported by 91 cities, and this probably refers to nose and throat clinics. Of these 37 are traveling clinics, about the same number as of dental clinics.

Physical Education

In 467 cities (90 per cent) a "regular time is set apart in the curriculum for physical education." (This is required by law in 36 States.)

In 23.2 per cent of schools (not cities) there is a gymnasium. In 88.3 there is a playground and in 29 per cent there is a play room (possibly many of these were included also under gymnasiums).

Noon Lunch

In 23 per cent of schools (58 per cent of cities) a noon lunch is provided (a large percentage considering the size of these communities unless they include children from surrounding territory).

In 141 cities this is supervised by the teacher, in 69 by the home-economics department, in 25 there is a cafeteria, in 4 a dietitian has charge, in 7 the Parent-Teacher Association; in 2 the janitor, and in 1 a nurse.

Health Education

Health education is given in 506 of these cities; in 250 such instruction is reported for all grades (the surprisingly high percentage of 50). In the remainder such teaching seldom extends beyond the eighth grade. In many it is not begun until the second, third, fourth, fifth, sixth, seventh, or even the eighth grade.

In 357 an attempt is made to correlate hygiene with other subjects, and in 36 "some" correlation is reported.

Conclusion

In 281 cities the superintendents find their present plan of health work satisfactory. In 59 cities things go fairly well, in 155 the results are not satisfactory, and 22 make no comment.

Lack of funds, lack of personnel, and lack of time are the chief complaints. One superintendent remarks "not organized and conducted through upper grades," which might have been said by a very large number. "Defects not taken care of" is another comment. It is evident that most superintendents know about what should be done but are hampered in securing the means. There is little complaint of lack of cooperation from the homes except as regards financial needs.

Communities from 2,500 to 5,000 Population

According to the census of 1920 there were 1,320 communities with a population of from 2,500 to 5,000. Replies to our questions were received from 1,007 of these places (76 per cent).

The total schools reported was 7,431 and the total pupils 1,076,701. There were 2,292 one-room schools or more than one in three of the schools reported. These occur chiefly in New England where the town is equivalent to the township of other sections of the country.

Inclusive of 1-room schools there were, on the average, about 150 pupils per building.

Personnel

Twenty-one of these communities have a full-time medical inspector, 17 of whom are employed by the board of education. The remainder are employed by the county, city, or State and probably give only part of their time to the schools.

A part-time medical inspector is reported by 431 superintendents, 230 of whom (56 per cent) are employed by the board of education; 59 are county, 53 city, 45 State, and 11 district health officers. The Parent-Teacher Association employs one. Eight physicians give their services without charge.

In 299 communities (29 per cent) there is a full-time nurse. In 231 she is employed by the board of education and probably devotes all her time to the schools. In 345 (34 per cent) there is a part-time nurse (a total of 63 per cent of schools with nurses). In 106 communities these are hired by the school board, in 89 they are county nurses, in 35 they are city nurses, in 22 Red Cross nurses, etc.

Fifty-one (5 per cent) superintendents report a "special health supervisor," 49 of whom are employed by the board of education.

In 545 (54 per cent) there is a physical-education director, 481 of whom are employed by the local board of education, six by the county, 16 by the district, 28 by the city or town, etc.

Health Examinations

According to these reports from 826 superintendents their teachers are daily on the alert for signs of communicable disease and an even larger number, 903, state that pupils with such diseases are promptly isolated. This is all too good to be true.

In 900 of these communities pupils are weighed and measured. In 8 they are weighed weekly, in 348 monthly; in 178 less often but more than twice a year, in 182 twice a year; in 136 yearly, in 5 every 2 years, in 1 every 4 years. In 70 per cent therefore the children are weighed at least twice a year. In 349 this is done by the teacher, in 305 by nurses, in 138 by nurse and teacher.

A general medical examination is given yearly in 533 (53 per cent) of these communities. In about 500 it is given by a physician.

In 864 (86 per cent) the eyes of the pupils are examined. In 747 this is done yearly or oftener.

In 298 it is done by nurses, in 128 by teachers, in 221 by a physician. (It is somewhat puzzling that these figures for examinations by physicians do not equal or exceed those for general medical examinations).

In 829 the hearing of pupils is examined. The frequency and the examiners are about the same as for vision.

In 847 localities the teeth are examined, in 596 places yearly, in 102 twice a year, in 11 monthly. The examinations are made by a dentist in 204 of these schools (20 per cent of all); by a nurse, dentist, or doc-

tor in 68; and by a dentist and doctor in 13. In all a dentist is mentioned by 285 (28.5 per cent) of the superintendents answering the questionnaire.

A general clinic is available for examination or treatment of children in 282 towns. In 111 it is a traveling clinic, and 223 are free clinics. Only 34 of these are under the direction of boards of education. Fifty-two are maintained by county health departments, 49 by State departments, 24 by local hospitals, 10 by nurses, 7 by physicians, 5 by Parent-Teacher Associations, etc.

The eye clinics reported are 136, of which 98 are traveling clinics. (Probably these also diagnose or treat nose and throat conditions.) These are all free. Only 14 of these are under the jurisdiction of departments of education.

In 305 towns (35 per cent) there is a dental clinic, of which 189 are traveling and 183 are free. These are under the department of education in 69 communities; 33 are supported by private agencies (dentists?), 40 by dentists, 11 by the Red Cross, etc.

Mental Hygiene

"Psychological clinics" are reported by 126 superintendents (12.5 per cent). These are traveling clinics in 75 instances and 63 are under the direction of the State. Seven are county clinics; 6 university clinics; 3 research clinics, and 10 others are maintained by private associations. There is no charge in 104 of these clinics.

One hundred and forty-three "other" clinics are reported, 59 of which are traveling clinics. Doubtless these are mostly nose and throat clinics, and do not wholly duplicate the clinics already mentioned.

Health Education

Health education is reported by 973 superintendents (97 per cent). In about 50 per cent of schools it is given in all grades. Some degree of correlation of hygiene with other subjects is made in 58 per cent.

Noon lunch.—There is provision for a noon lunch in 1,980, or 26 per cent of these schools. In 442 of the school districts this is supervised by the teacher, in 123 by the home-economics teacher, in 18 by the Parent-Teacher Association, in 3 by a dietitian, in 2 by janitors, and in 2 by a nurse, etc.

Physical Education

In 812 towns a regular time is set apart in the curriculum for "physical education." A gymnasium is reported in 15 per cent of schools (probably mostly high schools). Nineteen per cent have play rooms. Playgrounds are reported for 90 per cent of the schools.

Conclusion

In these schools 374 superintendents feel that their health work is satisfactory and 244 think it is fairly so (about 60 per cent in all). Besides lack of funds, personnel, and organization, the need of well-trained teachers is mentioned by some of the superintendents.

Rural Communities

Reports from County Superintendents

Roughly 50 per cent of 2,930 county or district superintendents responded to our questions.

In 1,500 counties which reported the number, there were 100,566 schools with an enrollment of over 6,500,000 pupils (about one-fourth the total school attendance). This does not represent an exclusively rural population, however, as a number of cities are included in this enrollment). There are 65,650 one-room schools in these counties and districts, and probably about 20 per cent of the children attend these schools.

Thirty per cent of the superintendents report that there is no one in charge of their health work, which, judging from the other reports, is equivalent to saying that no special worker in this field is employed.

In the remaining counties the "health work is in general charge" of the county health officer in 486 (about 32 per cent), a nurse in 272 (18 per cent), a physician in 126 (8 per cent), the county superintendent in 105 (7 per cent), a nurse and doctor in 26 (2 per cent), the Red Cross in 6, a physical educator in 3, State department of health in 12, and by miscellaneous agencies (including a coal company) in the remainder.

There is a full-time medical inspector employed in 170 counties (11 per cent). He is employed in 102 cases by the "county," in 1 by the "district," in 12 by the board of education, in 4 by the city, in 26 by the county and State, in 6 by the State, in 2 by a "private agency," in 1 by the Red Cross, etc.

A part-time medical inspector is employed in 410 counties (27 per cent). He is employed by the county or district in 162 instances, by the board of education in 116, by the State (county and State?) in 33 counties, by the board of health in 25, by the county and State in 19, and by miscellaneous agencies in the remainder.

There is a full-time nurse in 415 counties (27 per cent) (about the same number as for part-time physicians). She is employed by the "county" (agency not specified but probably health department) in 186 counties, by the board of education in 100, by the Red Cross in 26, by the "board of health" in 14, by the "State" in 7, by the "county and State" in 29, etc.

A part-time nurse is employed by 341 counties (22 per cent) which makes a total of about 50 per cent of counties having some kind of a nurse (about 40 per cent have some kind of a physician). This part-time nurse is employed by the county (board of health?) in 108 instances, by the board of education in 58 counties, by the Red Cross in 46, by a tuberculosis association in 25, by the State in 23, county and State in 14, department of health in 18.

There is a special health supervisor in 83 counties (6 per cent). Forty-nine of these are employed by the "county," 9 by the board of education, 8 by the State, 3 by the county and State, 4 by the board of health.

A physical-education director is employed by 266 counties (19 per cent). He is employed by the board of education in 190 cases, in 34 by the "county," in 22 by the State, etc.

Nine hundred and six superintendents (about 60 per cent) state that the teachers inspect the pupils daily for signs of communicable disease and 1,229 (80 per cent) report that pupils having such defects are promptly isolated and sent home.

In 925 counties (about 60 per cent) the pupils are weighed. In 262 counties this is done yearly, in 192 twice a year, in 333 monthly, in 85 over twice a year but not monthly.

In 410 counties the teacher does the weighing, in 292 the nurse, in 82 the county or school doctor, etc.

In 990 schools the children are measured. In 561 counties this is done yearly, in 50 twice a year, in 9 monthly, in 44 every 2 years, in 20 every 3 years, etc. In 390 the measuring is done by the teacher, in 316 by the nurse, in 93 by the physician, and in the remainder by 2 or more of the above officials.

A general health examination is reported by about 52 per cent of superintendents. In 50 this is given twice a year, in 561 yearly, in 44 every 2 years, in 20 every 3 years, in 11 at "entrance" (which may mean yearly), in 9 "in emergency," etc. This examination is given by a doctor in 417 counties, by the nurse in 159, by the teacher in 25, etc.

The eyes of pupils are examined in 969 counties (63 per cent). In 670 counties it is done yearly, in 78 twice a year, in 12 more than twice a year, in 7 monthly, in the remainder it is done less often than yearly. The eyes are examined by nurses in 313 counties, in 116 by the teacher, by physician in 334, by the family doctor in 4 counties, by "specialists" in 12, etc.

In 907 counties (about 60 per cent) the ears (hearing) are examined. In about 700 this is done yearly or oftener. It is done by about the same examiners as for vision.

The teeth are examined in 1,006 counties (about 65 per cent). This is done daily in 2, every 2 weeks in 2, in 6 monthly, in 76 twice a

year, in 668 yearly, and in the remainder less often. In 132 reports a dentist is mentioned as the examiner (about 10 per cent of counties). In 291 the nurse is the examiner, in 90 the teacher, in 230 the physician, etc.

No report regarding "follow-up" work was made (or there is no such work) in 662 counties (43 per cent) which is equivalent to saying that in all but 5 per cent of counties where there is a general medical examination something is done to secure correction of defects. The follow-up agent is the nurse in 323 counties; the teacher in 115; physician in 103; parents in 85; nurse and teacher in 67; nurse, teacher, and doctor in 135; Parent-Teacher Association in 3; etc.

A general medical clinic is available for treatment of children in 421 counties (27 per cent). In 219 counties this is a traveling clinic; in 334 it is free. One hundred and forty-two of these clinics are supported by the county, 108 by private agencies, 9 by boards of education, 17 by public-health associations, etc.

There are dental clinics in 299 counties (20 per cent) 150 of which are traveling. Ninety-seven are under the supervision of the county, 100 under a private agency, 26 under the board of education, etc.

There are eye clinics in 165 (11 per cent) of counties of which 65 are traveling clinics.

Psychological clinics are reported by 128 counties (8 per cent) and 69 of these are traveling clinics. Of these psychological clinics 61 are under the supervision of the State, 27 of the county, 7 of the board of education, 7 of universities, 22 of private agencies, and 4 of hospitals.

"Other" clinics (probably for nose and throat or lungs) are reported by 218 superintendents—of these 113 are traveling clinics.

A regular time is devoted to physical education in 973 counties (about 65 per cent). In 17 per cent of schools (exclusive of 1-room schools) there is a gymnasium; for 89 per cent of all schools reported there is a playground; and in 11 per cent there is a play room.

In 20 per cent of all schools there is provision for a hot noon lunch, usually supervised by the teacher; in 45 by the Parent-Teacher Association and in 145 by the home-economics teacher.

Health education is reported by 1,418 superintendents (93 per cent). In 857 it is given in all grades.

In 979 counties (65 per cent) there is correlation of the hygiene work with other school subjects and some correlation is reported by 227.

Three hundred and forty-five superintendents are satisfied with their present plan of health work (23 per cent) and 235 are fairly well pleased with their program—a total of about 38 per cent.

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